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France Transposes RED - Plant Based Industry Moving Forward

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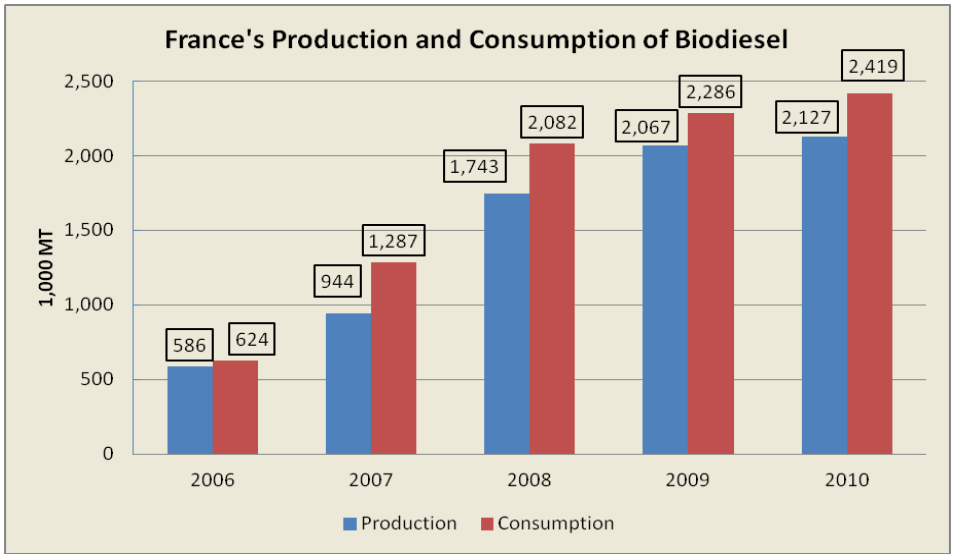
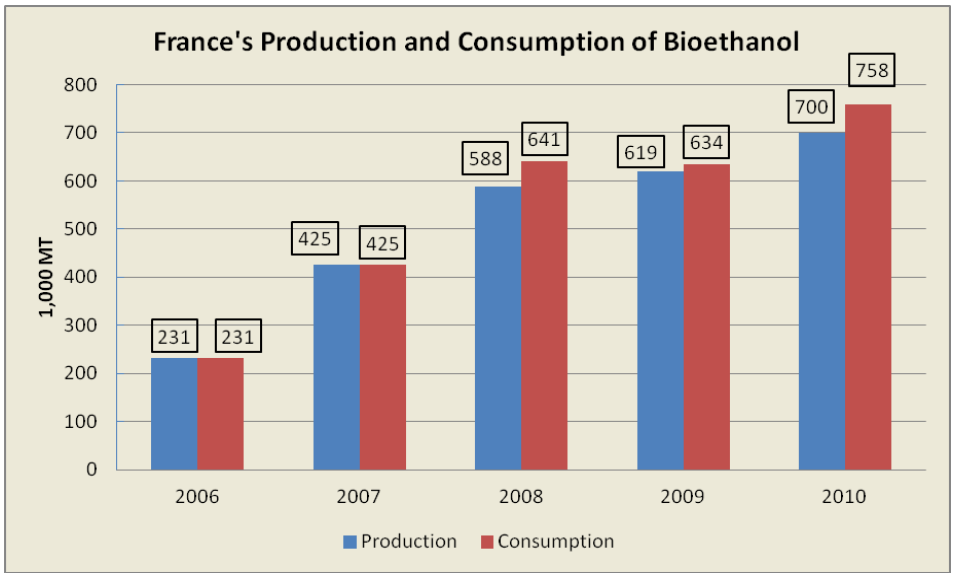
Report Highlights:
France plays a major role in the biofuels industry in the European Union (EU), with 20 and15 percent of the EU production and consumption of biodiesel and bioethanol, respectively. In 2010, the average blending of biodiesel into diesel amounted to 6.5 percent, while bioethanol blending into gasoline was 6 percent. In September 2011, the Government of France transposed the Renewable Energy Directive (RED) into national legislation, setting the national objective of 23 percent renewable energies into total national energy consumption by 2020, including 10 percent in transportation. An observatory of biofuels was recently created to monitor the various actions taken to meet the 2020 objectives. Also, France's Agency for Environment and Energy (ADEME) recently released roadmaps on research and development for plant-based chemistry and on advanced biofuels, exploring various scenarios of their development. Finally, the first congress of the association for plant-based chemistry was held in September, gathering leading stakeholders among the private industry and policy makers from France, the EU and the United States.

General Information:

Biofuels Production and Consumption Estimates for 2010

The French Ministry of Ecology and Sustainable Development recently released its preliminary estimates of biodiesel and bioethanol production and consumption for 2010 in their annual report "France's Energy Balance – 2010." Biodiesel represented 75 percent of the production and consumption of biofuels. In 2010, total biofuel production increased by five percent to 2.8 million MT, while consumption increased by almost 9 percent, to 3.2 million MT. The average incorporation rate is estimated at 6.5 percent for biodiesel into diesel and six percent for bioethanol into gasoline. These are preliminary estimates.





Transposition of the Renewable Energy Directive

Almost a year after the European Commission made it compulsory for Member States to implement the Renewable Energy Directive (RED), France transposed the RED into national legislation in order 2011-1105 dated September 14, 2011. The decision was published in France's Official Journal dated September 16, 2011. The 2011-1468 decree dated November 9, 2011 to implement the order was published in the French Official Journal on November 10.

On July 19, 2011, the European Commission recognized that the voluntary certification scheme created by the French industry, 2BSvs, respects the sustainability criteria defined by the RED (see the Official Journal of the European Union dated July 21, 2011, Decision 2011/437/UE). In the fall of 2010, France submitted its National Action Plan (NAP) to the European Commission, describing its strategy to meet the 23 percent target total national energy consumption by 2020, and 10 percent in transportation. For more details on the NAP, see GAIN report FR9052.

With the transposition of the RED at the national level and the validation of the voluntary scheme, the French biodiesel industry is estimated to have the necessary tools in place to implement the RED, and more specifically meet the required sustainability criteria, for the crops harvested in 2011. Interestingly, France and Germany are both the leading producers of rapeseed and biodiesel in the European Union, with rapeseed oil accounting to most of the source of biodiesel processing. Significant quantities of rapeseed produced in France are shipped to Germany every year to be processed into biodiesel. However, these quantities have declined in the past years, as Germany diversified its ingredients to process biodiesel, and as France increasingly used its domestic rapeseed production to process biodiesel. In 2011, France had a record crop (5.3 million MT of rapeseed) while Germany's harvest was significantly lower than expected. As a result, it is anticipated that German imports (from France, among other sources) will increase in order to meet the biofuels blending objectives. Implementing the RED is expected to be a major challenge for the European biofuels industry with the expected increased trade and the diversity of RED implementation paths set among Member States.

Two Strategic Committees on Biofuels and Bio-Industry

Two strategic committees involved in renewable energies and eco-industries were created, to demonstrate how seriously these issues are considered by national policy-makers.

On September 28, 2011, the Government of France (GOF) announced the creation of the "Observatory of Biofuels," responsible for monitoring the various actions taken in France to meet the 2020 objectives. The committee will set up indicators, identify the reasons of potential differences between targets and actual achievements, and make recommendations to help meet the targets. This committee, chaired by the Director General for Energy and Climate in the Ministry of Ecology and Sustainable Development, comprises representatives of producers of biofuels and renewable energies in transportation, operators commercializing conventional and alternative fuels, vehicle manufacturers, consumer and environmental groups, and the French administration. The committee will meet at least twice a year. One meeting was already held in 2011.
With a more general perspective, the Minister of Ecology and Sustainable Development and the

Minister of Industry and Energy created an Eco-Industry Strategic Committee on July 20, 2011, in charge of defining and implementing a strategic policy framework to allow the development of the eco-industry. The committee includes representatives of companies, professional organizations, employee unions, and the administration. The two ministers involved charged this committee to prepare an action plan for fall 2011 favoring the development of eco-industry and eco-innovation.

Roadmaps for Plant-Based Chemistry and Advanced Biofuels

France's Agency for Environment and Energy (ADEME) recently released a **roadmap on research and development for plant-based chemistry**. It was prepared by a group of experts from public and private research organizations, the industry, and technology clusters. The group identified the various stakeholders involved in plant and pharmaceutical biotechnology processes involved in plant-based chemistry and listed various scenarios for the development of this industry in France.

The roadmap considers the conditions for a successful development of the plant-based chemistry industry include (1) significant policy and societal incentives combined with high oil price/plant feedstock prices ratio; (2) feedstocks more economically competitive than fossil sources, and (3) the development of partnerships among stakeholders (agro-food industry, biotechnology, and chemistry), leading to breaking innovations.

ADEME also recently released a **roadmap for advanced biofuels**, identifying organization (farm waste and organic waste management, forestry, dedicated crops production) and technology as the main challenges. The four scenarios envisioned in ADEME's roadmap were the following:

1. Biofuels don't benefit from any major scientific breakthrough and continue to have limited economic and environmental balance. They contribute marginally to the reduction in GHG emissions;

2. High-tech biofuels see their production optimized, and are specifically used when no substitution is possible (especially in air transportation);

3. Optimized cellulosic biofuels processing in partnership with paper industry and petroleum industry;

4. Biofuels benefit from improved science and technology and are an important option to reduce GHG emissions (two-digit percentage reduction).

Plant-Based Chemistry Industry Moving Forward

According to the chemical industry organization (UIC), eight percent of the chemistry industry activities are currently based on plant sources, representing 28 billion euros in 2010 in the European Union. This percentage is on the rise for a number of reasons, including the increased consumer demand for "greener" products (for example in cosmetics), and the higher quality of these products (e.g. plant-based lubricants are more efficient than others).

The first congress of the association for plant-based chemistry (Association pour la Chimie du Vegetal - ACDV) was held September 5-6, 2011 in Paris. ACDV is a relatively new organization (it was created in 2008) and unique in Europe, with 42 members within the agrofood, chemistry, and downstream (producing chemical intermediates) industries. This congress was the opportunity for leading stakeholders among French and EU policy makers, and the private industry to meet and identify the current issues and challenges of France's and the EU's plant-based industry and regulatory framework.

At this conference, the development of biorefineries in France was estimated to be favored by both the diversity of feedstocks (sugarbeet and wheat producing starch; rapeseed, sunflower seed and soybeans-sourced oils; and wood-derived cellulose) and of the industrial processes. The major French biorefineries are the following:

- Roquette, a private company in Northern France specializing in the corn-based starch bio-chemistry;
- Sofiproteol, the oilseeds interbranch organization specializing in vegetable oils chemistry, and located in several locations across the country;
- Agroindustrie/Research/Development (ARD), a technology cluster based in the Champagne region and specializing in the sugarbeet and wheat-based starch and sugar chemistry;
- DRT, a biorefinery involved in wood-based chemistry, downstream the paper industry.